SANTA CRUZ BIOTECHNOLOGY, INC.

RecA (bD-17): sc-30382

BACKGROUND

RecA catalyzes the DNA pairing and strand-exchange steps of homologous recombination, an important mechanism for repair of double-stranded DNA breaks. The binding of RecA to DNA is modulated by adenosine nucleotides. ATP increases the affinity of RecA for DNA, while ADP decreases the affinity. DinI and RecX are competing modulators of RecA function. A C-terminal point mutation in RecA protein significantly alters the interaction between RecA and RecX proteins. RecA mutants that are unable to repair fragmented chromosomes depend on other mechanisms designed to avoid chromosomal fragmentation.

REFERENCES

1. Xing, X., et al. 2004. Crystal structures of *Escherichia coli* RecA in complex with MgADP and MnAMP-PNP. Biochemistry 43: 16142-16152.
2. Lusetti, S.L., et al. 2004. The DinI and RecX proteins are competing modulators of RecA function. J. Biol. Chem. 279: 55073-55079.
3. Drees, J.C., et al. 2004. Inhibition of RecA protein by the *Escherichia coli* RecX protein: modulation by the RecA C terminus and filament functional state. J. Biol. Chem. 279: 52991-52997.
4. Kouzminova, E.A., et al. 2004. RecA-dependent mutants in *Escherichia coli* reveal strategies to avoid chromosomal fragmentation. Proc. Natl. Acad. Sci. USA. 101: 16262-16267.
5. Ozgenc, A.I., et al. 2005. *In vivo* evidence for a recA-independent recombination process in *Escherichia coli* that permits completion of replication of DNA containing UV damage in both strands. J. Bacteriol. 187: 1974-1984.
6. Schlacher, K., et al. 2005. DNA polymerase V and RecA protein, a minimal mutasome. Mol. Cell. 17: 561-572.
7. Foti, J.J., et al. 2005. A bacterial g protein-mediated response to replication arrest. Mol. Cell. 17: 549-560.

SOURCE

RecA (bD-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RecA of *E. coli* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-30382 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

RecA (bD-17) is recommended for detection of RecA of *E. coli* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yang, T.Y., et al. 2010. Posttranscriptional repression of the cel gene of the ColE7 operon by the RNA-binding protein CsrA of *Escherichia coli*. Nucleic Acids Res. 38: 3936-3951.

RESEARCH USE

For research use only, not for use in diagnostic procedures.